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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/678,171	10/02/2000	Xuequan Zhang	CHOI-0038	4189

7590 07/21/2003

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EXAMINER

PASTERCZYK, JAMES W

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 07/21/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

AS6

Office Action SummaryApplication No.
09/678,171Applicant(s)
Zhang et al.Examiner
J. PasterczykArt Unit
1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 18, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☒ ~~This action is non-final.~~
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-10, 13-16, and 20-26 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-10, 13-16, and 20-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Oct 20, 2001 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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1. This Office action is in response to the amendment filed 6/18/03 and refers to the first Office action mailed 3/18/03.

2. The abstract of the disclosure is objected to because the last sentence still refers to the purported merits of the invention, and the term "insulate" is still present with a meaning contrary to the accepted meaning of the term. Correction is required. See MPEP § 608.01(b). While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA, 1947). The term "insulate" is used by the abstract to mean "chemically isolate and prevent chemical reaction between," while the accepted meaning is "prevent heat or electron flow between."

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: all feature numbers found in figure 1 are not found in the specification. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The rejection of paragraph 9 of the first Office action is withdrawn with the understanding that when applicants use terms such as "insulation", "insulating", or "insulates", they mean that the "insulating" layer is actually acting as a chemical barrier layer between the support layer and the catalyst layer to prevent the catalyst layer from being poisoned and hence

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deactivated by impurities in the support layer. However, both the claims and specification should be amended to reflect this fact; note *In re Hill* above.

5. Claims 1, 4-10, 13-16 and 20-26 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims fail to correspond in scope with that which applicants regard as the invention can be found in the specification as originally filed. In the specification, applicant has stated that the invention lies in the fact that the polymer layer acts as a barrier to chemical contact and thus reaction between the support layer and catalyst layer thus poisoning the catalyst layer, and this statement indicates that the invention is different from what is defined in the claims because the claims as currently drawn lack the particular order of layers, instead merely reciting that the layers are present in no particular order.

6. Claims 1, 4-10, 13-16 and 20-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 fails to state that the polymer layer is between the catalyst layer and the support layer, thereby preventing the latter from poisoning the former; instead, it uses the incorrect term "insulates" to describe the function of the polymer layer. See *In re Hill* above.

In claim 4, l. 3, make "hydroxyl group-containing polymer" plural. Claim 22 also has this problem.

In claim 5, l. 3, correct the spelling of copolymer".

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In claim 15, without the presence of a cocatalyst, what is made instead is merely a supported catalyst precursor. Also, the steps in the method are not clearly recited, i.e. it is not clear whether or not the polymer is actually coated on the support, or when that is done, before or after adding the metallocene catalyst.

In claim 16, l. 3, insert --an-- before “alkyl aluminoxane” and “alkyl aluminum compound” respectively.

In claim 20, the incorrect term “insulates” is again used, and here it is recited that the polymer layer insulates the metallocene catalyst layer from poisoning the catalytic activity of the metallocene catalyst layer, i.e. the polymer layer prevents the metallocene layer from poisoning itself, which is incorrect.

Claim 25 is a repeat of claim 8 and thus should be cancelled; claim 26 is a repeat of claim 9 and likewise should be cancelled.

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1, 4-10, 13-16 and 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harth as cited in paragraph 14 of the previous Office action in view of Herrmann as cited in paragraph 17 of the previous Office action and Burkhardt et al., USP 5,240,894 (hereafter referred to as Burkhardt).

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Harth discloses that a protective layer having a high barrier action to diffusion and low absorption may be coated upon a support material with a catalytic layer coated upon the resulting product (col. 2, l. 1-5, l. 52-57).

Harth lacks disclosure of using this layer structure with a metallocene catalyst.

However, Burkhardt teaches that supported metallocene catalysts may have a polymer layer prepolymerized onto the supported catalyst (col. 3, l. 45-47; col. 4, l. 32-40), and Herrmann teaches that preferred materials of the present invention may be used as supports upon which a metallocene may be directly deposited (col. 8, paragraph 143). One of ordinary skill in the art would have recognized that the support materials of Herrmann would have served as well as intermediate layer materials between the supports specifically disclosed by both Burkhardt and Harth and the metallocenes of both Burkhardt and Herrmann.

It would have been obvious to one of ordinary skill in the art to apply the teachings of Burkhardt and Herrmann to the disclosure of Harth with a reasonable expectation of obtaining a highly-useful supported metallocene catalyst and method of making it with the expected advantage of the catalyst forming more physically robust particles.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is (703) 308-3497. The examiner can normally be reached on M-F from 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached on (703) 308-3823. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for normal faxes, 872-9311 for after final faxes.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



J. Pasterczyk

AU 1755

7/16/03



Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700